MDOT/MDIT TECHNICAL ENVIRONMENT

All software and hardware items provided by the Contractor must run on and be compatible with the MDIT/MDOT Standard Information Technology Environment. A comprehensive listing of the State's existing technology standards may be reviewed at http://michigan.gov/dit.

It is recognized that technology changes rapidly. The Contractor may request, in writing, a change in the standard environment, providing justification for the requested change and all costs associated with any change. Any changes must be approved, in writing, by the MDOT Project Manager and the MDIT Agency Services Information Officer, before work may proceed based on the changed environment.

Additionally, the State needs to be able to maintain software and other items produced as the result of the Contract. Therefore, non-standard development tools may not be used unless approved by MDIT. The Contractor must request, in writing, approval to use non-standard software development tools, providing justification for the requested change and all costs associated with any change. The MDIT/MDOT Project Manager and the MDIT Information Services Officer, before use on any MDIT/MDOT project, must approve any tools, in writing.

The MDIT/MDOT Standard Information Technology Environment consists of the Desktop Environment, Project Management Tools, the Business System Development Environment, the Web / Intranet Site and Application Development Environment, the Security Environment, and the Network Environment. These environments include but are not limited to the following identified IT tools:

Window XP Desktop Environment
- Microsoft Office/Office Professional, version XP
- Novell GroupWise 6.5.3 +
- Microsoft Internet Explorer 6.0 +
- Oracle NetServices 9.2.06 +
- Novell Client Service for Netware 4.91 + SP2

Project Management Tools
- Niku Version 6.0 or higher (State of Michigan standard)
- Microsoft Project 2002 (on approval of Department Of Information Technology's Agency Services Information Officer)

Business System Development Environment - Client/Server & Enterprise Web Sys. Development
- IBM Rational Suite
- IDEF for business process re-engineering
- Erwin - Data Modeling
- BPWin - Business Process Modeling
- Enterprise application Studio (PowerBuilder 9.x PowerJ   3.x, PowerSite)
- Enterprise Application Server 3.x (Jaguar CTS 3.x, PowerDynamo)

Development Languages, Tools
- Powerscript
- Java 2.x
- Microsoft .Net
- IBM Websphere, Studio Application Developer for Windows v. 5.1 +
- IBM Rational Suite 2003.06.12.280

Application Servers
- Sybase EAS Web Server on Microsoft IIS Web Server, version 5.1 + on Windows 2000
- IBM WebSphere Application Server - Developer Edition
- IBM WebSphere Application Server - Enterprise Edition, v. 5.1.x + for Sun Solaris

Web / intranet Site and Application Development Environment

Development Languages, Tools:
- JavaScript
- Cold Fusion version 7.0 or higher
- Java 2.X
- Microsoft .Net
- IBM WebSphere. Studio Application Developer for Windows v. 5.1.x
- IBM Rational Suite 2003.06.12.280

Application Servers
- Cold Fusion, MX Enterprise
- IBM WebSphere Application Server - Developer Edition
- IBM WebSphere Application Server - Enterprise Edition, v. 5.1.x + for Sun Solaris

Web / intranet Servers:
- Apache 2.054
- IBM HIS 2.0.x
- IIS 5.0

Web / intranet Development Tools:
- Adobe Acrobat 6.0+
- Macromedia Dreamweaver 7.0+
- IBM WebSphere Studio Homepage Builder +
- IBM Rational Suite 2003.06.12.280
- Eclipse 3.1

Web Content Management
- Vignette Content Manager, version 6+

Electronic Documents:
- Adobe Acrobat version 6.0 +

Document Management
- FileNET Panagon for document management
- Bentley ProjectWise for CAD file management

Electronic Forms:
- Presentation: Adobe Acrobat version 6.0 +
- FileNET Panagon eForms for document management

Testing Environment
- TestDirector 7.6 for storing test steps and cases
- WinRunner 7.6 for automating test runs
- LoadRunner 7.6 for load testing

Security Environment
- MDIT/MDOT Single Login
- MDIT/MDOT provided SQL security database
- MDOT provided validation and code for PowerBuilder
- Secured Socket Layers
- SecureID (State Security Standard for external network access and high risk Web systems)

MDIT/MDOT requires that its single - login security environment be used for all new client-server software development. Where software is being converted from an existing package, or a client-server application is being purchased, the security mechanism must be approved in writing by the MDIT/MDOT Project Manager and the MDIT Agency Services Officer.

Network Environment / Hardware
- Cisco Routers
- IPX and IP routing
- 10 BaseT, 100 BaseT and 1000BaseT Ethernet for desktops
- T-1 or 56K connections
- HP OpenView
- Node Runner
- Cisco and Shiva remote access servers
- GroupWise
- Sun E6900, E4800, E4500 series servers
- Solaris10 or higher
- Oracle 9.2.0.7
- Netware 6.0   6.5 SP5
- Netware NFS and Sun NFS 3.0+
- WIN2K server
- Novell Account Manager v2
- Citrix ICA client
- Oracle NetServices 9.2.0.7

All software supplied by the Contractor shall be capable of running concurrently with the MDOT software and all client specific software programs (i.e. LAN, Microsoft Office Suite), without resulting in excessive reduction in production capabilities in the laboratory or management areas. In addition, all client-server applications must be designed to be able to run on a Citrix server, and must behave so that they don't cause conflicts running in a multi-user environment, e.g. temporary work files should be avoided or implemented in a way to not cause conflicts.